

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~A~~ ~~An essentially transparent~~ substrate (1), optionally transparent or optionally essentially transparent, comprising a material selected from ~~especially based on glass; or one or more polymers[[,]]; or a ceramic substrate; or a glass-ceramic substrate[[,]]; a substrate made of an architectural material; or a substrate made of an architectural material of the type comprising a wall render, concrete slab or block[[,]]; architectural concrete[[,]]; roof tile[[,]]; material of cementitious composition[[,]]; terracotta[[,]]; slate[[,]]; stone; or metal surface[[,]]; a mineral fibrous substrate; or a fibrous substrate based on glass of the insulation mineral wool type or reinforcement glass yarns[[,]]; or combinations thereof; and~~ comprising ~~characterized in that it is provided~~ on at least part of its surface with a first coating (2), comprising a layer, or several stacked layers, based on an at least partly oxidized derivative of silicon, selected ~~chosen~~ from silicon dioxide, substoichiometric silicon oxides and a silicon oxycarbide, oxynitride or oxycarbonitride, and wherein said first coating (2) exhibits ~~exhibiting~~ hydrophilicity and is being ~~is~~ surmounted by a second coating (3) having photocatalytic properties, and which comprises at least partly crystallized titanium oxide, said second coating (3) having a discontinuous/permeable structure.

Claim 2 (Currently Amended): The substrate as claimed in claim 1, wherein ~~characterized in that~~ said substrate is essentially transparent, flat or curved, and optionally of the impressed glazing type ~~or not~~.

Claim 3 (Currently Amended): The substrate (1) as claimed in ~~either of the preceding claims~~ claim 1, wherein ~~characterized in that~~ the refractive index of the first coating (2) is between 1.45 and 1.80[[,]] ~~especially 1.50 and 1.75, preferably 1.55 to 1.68.~~

Claim 4 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims~~ claim 1, wherein ~~characterized in that~~ the first coating (2) is deposited by sol-gel or by pyrolysis, ~~especially chemical vapor deposition (CVD)~~ or by a vacuum technique of the sputtering type.

Claim 5 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims~~ claim 1, wherein ~~characterized in that~~ the first coating (2) has a thickness of at least 5 nm[[,]] ~~especially between 10 and 200 nm, preferably between 30 and 120 nm.~~

Claim 6 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims~~ claim 1, wherein ~~characterized in that~~ the first coating (2) is rough, and has an external surface with nanoscale protuberances and/or indentations.

Claim 7 (Currently Amended): The substrate (1) as claimed in claim 6, wherein ~~characterized in that~~ the first coating (2) has an external surface exhibiting protuberances, at least some of which are not touching.

Claim 8 (Currently Amended): The substrate (1) as claimed in claim 6 ~~or claim 7,~~ wherein ~~characterized in that~~ the first coating (2) has, on the external surface, protuberances and/or indentations with a diameter of between 5 and 300 nm[[,]] ~~especially between 50 and 100 nm.~~

Claim 9 (Currently Amended): The substrate (1) as claimed in ~~claims 6 to 8~~ claim 6, wherein ~~characterized in that~~ the first coating (2) has, on the external surface, protuberances and/or indentations with a height/depth of between 5 and 100 nm~~[[,]] especially between 10 and 50 nm.~~

Claim 10 (Currently Amended): The substrate (1) as claimed in ~~claims 6 to 9~~ claim 6, wherein ~~characterized in that~~ the first coating (2) has an external surface comprising between 5 and 300 protuberances~~[[,]] especially between 20 and 200 protuberances per  $\mu\text{m}^2$~~  of substrate.

Claim 11 (Currently Amended): The substrate (1) as claimed in ~~claims 6 to 10~~ claim 6, wherein ~~characterized in that~~ the first coating (2) has an rms roughness of between 4 and 12 nm~~[[,]] especially between 5 and 10 nm and in particular between 6 and 9 nm.~~

Claim 12 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims~~ claim 1, wherein ~~characterized in that~~ the second coating (3) has a thickness of at most 10 nm~~[[,]] especially at most 8 or 5 or 3 nm[[,]]~~ in the regions of overlap with the first coating (2).

Claim 13 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims~~ claim 1, wherein ~~characterized in that~~ the second coating (3) is essentially based on optionally doped titanium oxide, comprising grains or crystallites with a diameter of between 0.5 and 100 nm~~[[,]] especially between 2 and 20 nm.~~

Claim 14 (Currently Amended): The substrate (1) as claimed in claim 6 ~~and claim 13, wherein characterized in that~~ the second coating (3) is essentially based on optionally doped titanium oxide, comprising grains or crystallites, and wherein the diameter of the first coating (2) to the diameter of the grains or crystallites of the second coating (3) is at least 2[[,]] ~~especially at least 4, 5 or 10.~~

Claim 15 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims claim 1, wherein characterized in that~~ the substrate provided with the first (2) and second (3) coatings has an rms roughness of between 4 and 15 nm[[,]] ~~especially between 5 and 12 nm and more particularly between 7 and 10 nm.~~

Claim 16 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims claim 1, wherein characterized in that~~ the second coating (3) follows the roughness of the first coating (2).

Claim 17 (Currently Amended): The substrate as claimed in claim 7 ~~and claim 13, wherein characterized in that~~ the grains/crystallites of the second coating (3) lie between the indentations/protuberances of the external surface of the first coating (2), and optionally partially or fully possibly cover[[,]] ~~at least partly~~[[,]] said indentations/protuberances.

Claim 18 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding claims claim 1, wherein characterized in that~~ the second coating (3) corresponds to an amount of material of at most 10 micrograms per cm<sup>2</sup> of substrate[[,]] ~~especially at most 5 or 3 micrograms per cm<sup>2</sup> of substrate, preferably about 0.5 to 3 micrograms per cm<sup>2</sup>.~~

Claim 19 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding~~  
~~claims~~ claim 1, wherein ~~characterized in that~~ the second coating (3) is deposited by sol-gel,  
by pyrolysis, ~~especially chemical vapor deposition~~ or by a vacuum technique of the sputtering  
type.

Claim 20 (Currently Amended): The glass substrate (1) as claimed in ~~one of the~~  
~~preceding claims~~ claim 1, wherein ~~characterized in that~~ the first and second coatings are  
deposited by chemical vapor deposition on a ribbon of float glass.

Claim 21 (Currently Amended): The ~~transparent~~ substrate (1) of the a glazing type as  
claimed in ~~one of the preceding claims~~ claim 1, wherein the substrate is transparent, and  
~~characterized in that~~ it has, once provided with the first and second coatings, a light reflection  
on the coating side  $R_L$  of at most 12% $[[,]]$  ~~especially at most 11%~~, preferably combined with  
 $a^*$  and  $b^*$  values, such that  ~~$2 < a^* < 9$~~   $-2 < a^* < 0$  and  $-5 < b^* < 0$ .

Claim 22 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding~~  
~~claims~~ claim 1, wherein ~~characterized in that~~ the combination of the first and second coatings  
(2, 3) exhibits photocatalytic activity characterized by a rate of palmitic acid degradation of at  
least 5 nm/h $[[,]]$  ~~especially at least 10 nm/h~~.

Claim 23 (Currently Amended): The substrate (1) as claimed in ~~one of the preceding~~  
~~claims~~ claim 1, wherein ~~characterized in that~~ the combination of the first and second coatings  
(2, 3) exhibits hydrophilicity characterized by a water contact angle of at most  $20^\circ$  $[[,]]$   
~~especially at most  $10^\circ$  or  $5^\circ$~~  with or without exposure to radiation in the ultraviolet and/or in  
the visible.

Claim 24 (Currently Amended): A method of manufacturing ~~The application of the~~  
~~essentially transparent substrate as claimed in one of the preceding claims, to the manufacture~~  
~~of "self-cleaning" "self-cleaning,"[[,] especially antifogging, anticondensation and~~  
~~antisoiling, glazing, comprising forming the substrate of claim 1, and wherein the substrate~~  
~~comprises a material selected from glass, glass-ceramic or combinations thereof especially~~  
~~glazing for buildings of the double-glazing type, vehicle windows of the windshield, rear~~  
~~window, side windows of automobiles, rear view mirrors, windows for trains, aircraft and~~  
~~ships, utilitarian glazing, such as aquarium glass, shop window glass or greenhouse glass,~~  
~~interior furnishings, urban furniture, mirrors, screens for display systems of the computer,~~  
~~television or telephone type, electrically controllable glazing such electrochromic glazing,~~  
~~liquid-crystal-type glazing, electroluminescent glazing and photovoltaic glazing.~~

Claim 25 (Currently Amended): A method of manufacturing ~~The application of the~~  
~~substrate made of architectural material as claimed in one of claims 1 to 23 for the~~  
~~manufacture of partitions, wall claddings, roofing and flooring, for indoors or outdoors,~~  
~~comprising applying to a surface, or inserting into a frame, the substrate of claim 1, and~~  
~~wherein the substrate comprises an architectural material.~~

Claim 26 (Currently Amended): A method of manufacturing ~~The application of the~~  
~~substrate based on insulation mineral wool as claimed in one of claims 1 to 23 to the~~  
~~manufacture of false ceilings or filtration materials, comprising inserting the substrate of~~  
~~claim 1 into a frame, and wherein the substrate comprises an insulation mineral wool.~~

Claim 27 (New): The method of claim 24, wherein the glazing is selected from the  
group consisting of buildings of the double-glazing type; vehicle windows of the windshield;

rear window or side windows of automobiles; rear-view mirrors; windows for trains, aircraft and ships; utilitarian glazing, such as aquarium glass, shop window glass or greenhouse glass; interior furnishings; urban furniture; mirrors; screens for display systems of the computer; television or telephone type; electrically controllable glazing, such electrochromic glazing; liquid-crystal-type glazing; electroluminescent glazing and photovoltaic glazing.

Claim 28 (New): The substrate (1) as claimed in claim 1, wherein the first coating (2) is deposited by chemical vapor deposition (CVD).

Claim 29 (New): The substrate (1) as claimed in claim 13, wherein the second coating (3) is essentially based on optionally doped titanium oxide, comprising grains or crystallites, and wherein the diameter of the first coating (2) to the diameter of the grains or crystallites of the second coating (3) is at least 2.

Claim 30 (New): The substrate as claimed in claim 13, wherein the grains/crystallites of the second coating (3) lie between the indentations/protuberances of the external surface of the first coating (2), and optionally partially or fully cover said indentations/protuberances.

Claim 31 (New): The substrate (1) as claimed in claim 1, wherein the second coating (3) corresponds to an amount of a material of about 0.5 to 3 micrograms per cm<sup>2</sup>.

Claim 32 (New): The substrate (1) as claimed in claim 1, wherein the second coating (3) is deposited by chemical vapor deposition.